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OBSERVATIONS ON NEMATODE PARASITE (*CONTRACAECUM* SP.) IN SOME IRAQI FISHES

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The Shatt-al-Arab river and its branches form a suitable habitat for the freshwater fishes. Little work has so far been done on helminth parasites infecting the Iraqi fishes. Herzog (1969) working with the Iraqi fishes showed that the larvae and the adults of nematode were about 40 per cent of the total examined fishes.

Shamsuddin *et al* (1971) found that larval nematode in most of the fishes examined by them and the infection was heaviest in *Siluris triostegus* (Heckel) and *Aspius varax* (Heckel). They suggested that these larve belonged to *Contracaecum multipapillatum, C. microcephalum* and *C. spiculigerum.*

MATERIALS AND METHODS

Fishes were collected by net at monthly intervals for one year starting from October 1975 from the Shatt-AL-Arab river at Basrah All fishes caught were examined for nematodes. These fishes were dissected and the larvae were microscopically examined. The number of larvae, its location in each different sites were recorded. Search for adult nematodes was made in the large fishes, as *Silurus triostegus* and *Aspius vorax.*

Five species of bird occurring in Basrah marshes were collected with shotgun and the proventriculi were immediately examined for the adult nematodes.

Nematodes were fixed in 70 per cent alcohol and cleare in lactophenole and identified. This identification wa later confirmed by the British Museum (Natural History).

RESULTS

Table 1 shows the fish host, nematodes, the site an percentage of infection. The most heavy infection occure in three species of fishes, *S. triostegus, A. vorax* an *Mugil hishni.* All nematode larvae were in the third stag (Fig. 1) and (Fig. 2). The adults which were collecte only from Purple Heron identified as *C. microcephalu* (Fig. 3) and (Fig. 4).

A comparision between *Contracaecum* larve collect from Mugil and the immature forms found in herons i dicated that they belong to the same species. The fo contents found in Purple Heron were *M. dussumie M. hishni, Saccobranches fossilis* and shrimps. All bir examined were infected with *Contracaecum* sp. (Table A large number of larvae found in Cormorant (Fig. 5) we frequently noted as penetrating the wall of the p ventriculus.

Larvae of *Cucullanus* and *Spiruroid* observed in *Ba bus sp.* are not previously reported from Iraq and therefo the present finding form the first record for these t genera.

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Larvae of *Cucullanus* and *Spiruroid* observed in *Barbus sp.* are not previously reported from Iraq and therefore the present finding form the first record for these two genera.

DISCUSION

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Table 1. Site and percentage of nematode infection of some Iraqi fishes.

Fish host	nematode larvae	Percentage infection	No. of fish fish	Site of infection.
Siluris triostegus (Heckel)	*Contracaecum sp.*	100	82	mesentry, stomach
Aspius vorax (Heckel)	= = = = ±	84	64	surface.
Mugil hishni (Misra)	= = = = ±	71	1273	mesentry, stomach surface, liver kidney, gonad.
Mugil dussumieri (Cuvier & Valenciennes)	= = = = ÷	54	49	mesentry
Saccobranchus fossilis (Bloch)	= = = = ±	53	38	mesentry, stomach surface.
Barbus luteus (Heckel)	= = = = ±	44	230	mesentry.
	Cucullanus sp. *	10		=
	Spiruroid *	5		=
Barbus sharpeyi (Gunther)	*Contracaecum sp.*	42	114	
Barbus xanthopterus (Heckel)	=	25	26	= =
Barbus grypus (Heckel)	=	30	33	=
	Spiruroid *	5		=
Mystus pelusius (Solander)	*Contracaecum sp.*	11	16	

* Recorded for the first time in Iraqifishes.

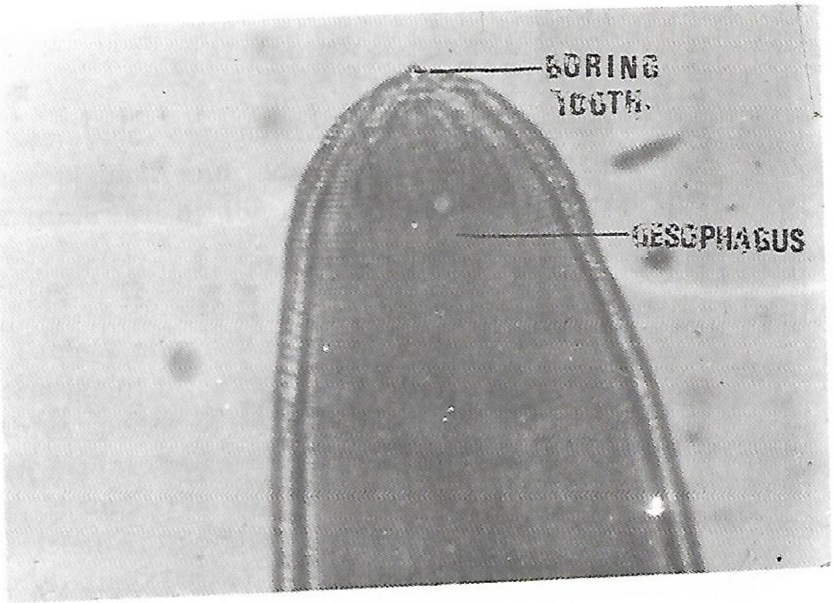

Fig. 1. The anterior end of *Contracaecum* larva.

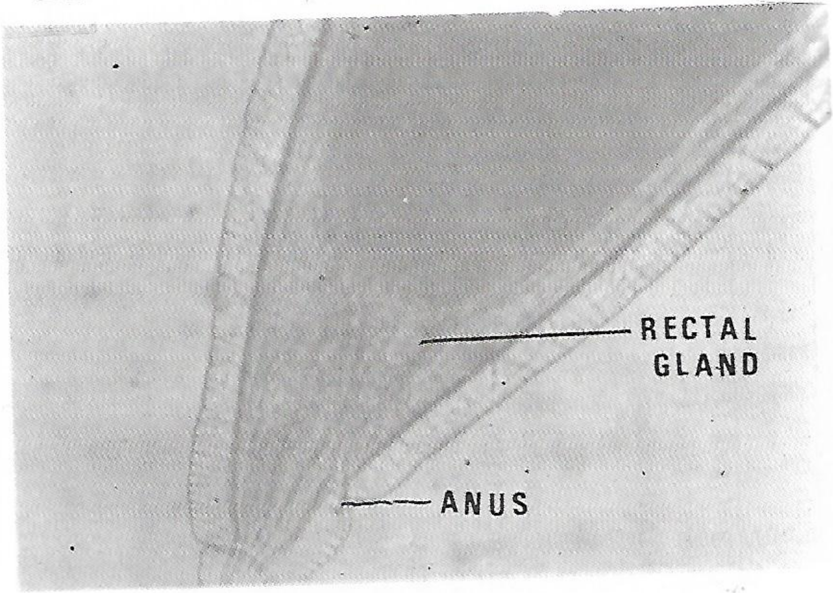

Fig. 2. The posterior end of *Contracaecum* larva.

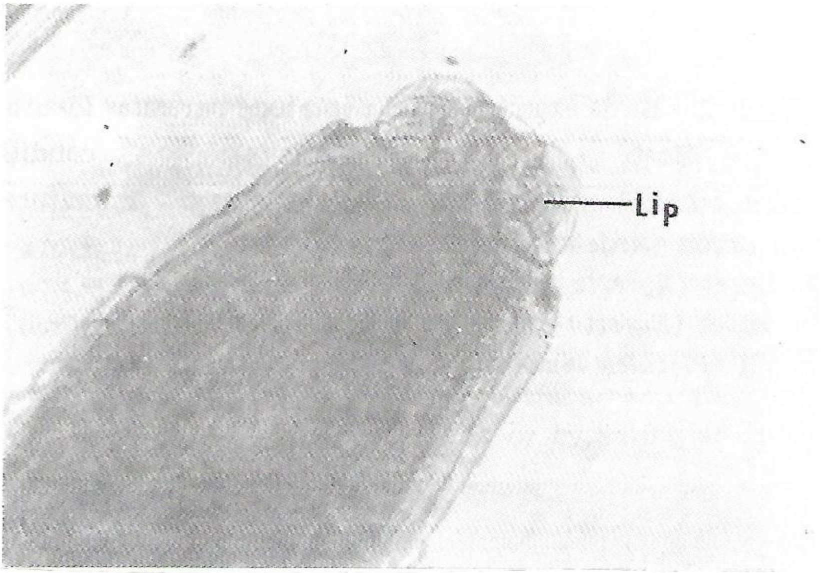

Fig. 3. The anterior end of adult *Contracaecum microcephalum* from Purple Heron.

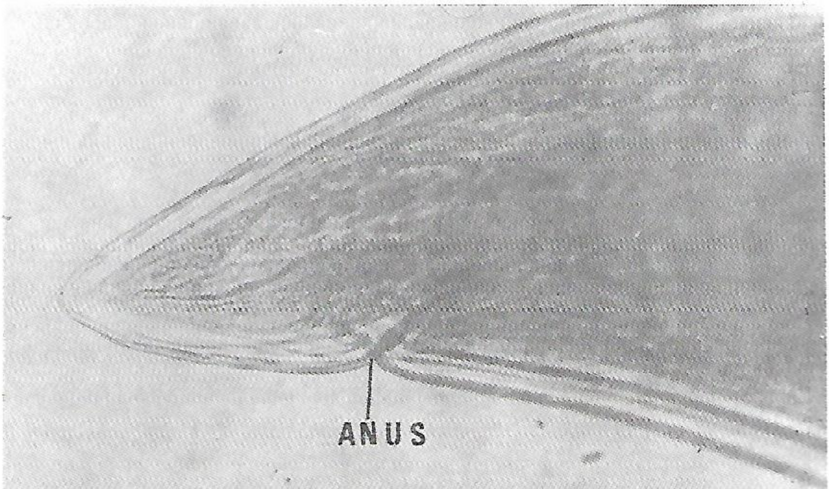

Fig. 4. The posterior end of adult *Contracaecum microecphalum* from Purple Heron.

Table 2. Birds examined and nematode parasites identified

Host	parasite	condition
Cormorant (*Phalacrocorax sp.*)	*Contracaecum*	Immature
Purple Heron (*Ardea purpurea L.*)	=	=
Little Egret (*Egretta* garzetta L.)	=	=
Great Egret (*Egretta* alba L.)	=	=
Spoonbill (*Platalea leucordia* L.)	=	larvae

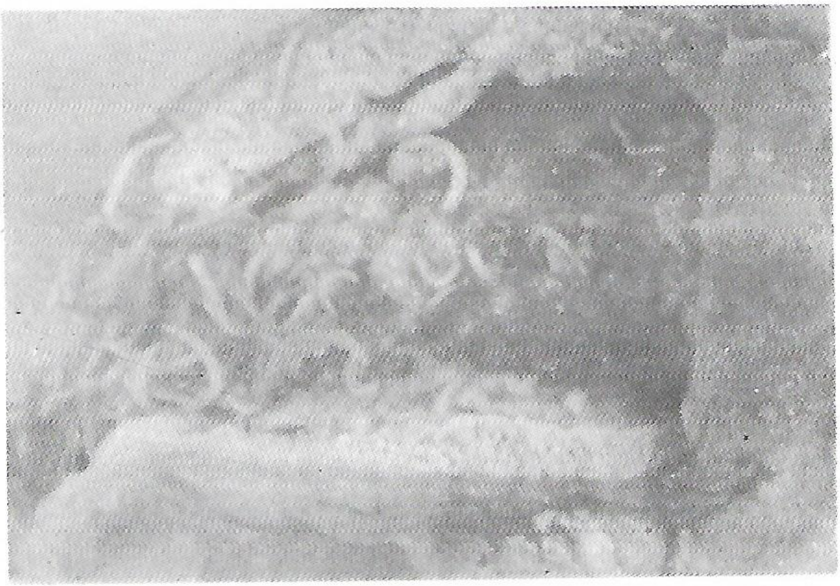

Fig. 5. Proventriculus of Cormorant opened to show heavy infection by *Contracaecum* larve.

In the proventriculus of the Purple Heron the adult nematodes laid their eggs in early stages of development which pass out with the faeces of bird into the water, where it develops to infected juvenile having a cuticular boring tooth. This stage is eaten by the intermediate host which is usually invertebrates. The fishes are infected by two pathways either by feeding of the second stage larvae directly (Thomas, 1937 & 1937 b) or by eating an infected Copepod.

After reaching the intestine of the host, the larvae penetrate the intestinal wall and get into the body cavity of the host from where they migrate into different organs to become capsulated by the host tissues and reach the third stage. This third stage larvae find their way to the Purple Heron when the latter feed on the infected fishes. In the final host (Purple Heron) the third stage of nematode looses its borinmg tooth and changes into adult. Transfer of the larvae between the hosts is possible during a predatory-prey relationship involving small and large fishes.

The adult nematodes from the Purple Heron were identified as *C. microcephalum*. Shamsuddin *et al* (1971) after morphological studies on *Contracaecum* larvae from *Mugil* belived that they belonged either to *C. microcephalum*, or *C. multipapillatum*, or *C. spiculigerum*.

SUMMARY

The adult stage of *Contracaecum microcephalum* have been recovered from the Purple Heron. Two pathways of life cycle are suggested for this parasite. The second stage could reach the fish either through the eating of infected copepod or by direct consumption of the first stage larvae.

ACKNOWLEDGEMENT

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Observations on nematode parasite in Iraqi fishes

الخلاصة

فحصت عشرة انواع من الاسماك وخمسة انواع من الطيور في منطقة البصرة لغرض التعرف على دورة حياة طفيلي (الكونتراسيكم) وقد تم عزل وتشخيص الطور البالغ للطفيلي من طيور مالك الحزين سنجابي – شهيبي كما سجلت لاول مرة اصابة الاسماك العراقية بنوعين جديدين من الديدان الخيطية .